

Application 10/646,008
Response dated: December 8, 2005
In Reply to Office Action dated: November 8, 2005

AMENDMENT TO THE CLAIMS

Please replace the claims with the following rewritten listing:

1. (Previously Presented) A liquid crystal display device comprising:

a liquid crystal panel including a first display signal wire having a plurality of a first display signal lines, a second signal wire having a plurality of a second display signal lines that cross the first display signal lines, a plurality of switching elements each of which is connected to both of one of the first display signal lines and one of the second display signal lines, and pixel electrodes connected to the switching elements;

a first driving signal wire transmitting driving signals for the first or second display signal lines, wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a first pad connected thereto at its near end;

a plurality of first connecting lines disposed between the first driving signal wire and a part of the first display signal wire, and connected to at least one of the first driving signal wire and the part of the first display signal wire.

2. (Previously Presented) The liquid crystal display device of claim 1, further comprising a plurality of drivers respectively connected to the first driving signal wire.

3. (Previously Presented) The liquid crystal display device of claim 2, wherein each of the drivers is in the form of a chip.

4. (Previously Presented) The liquid crystal display device of claim 3, wherein each of the drivers is formed on the liquid crystal panel.

5. (Previously Presented) The liquid crystal display device of claim 4, wherein each of the drivers is directly connected to the first driving signal wire.

Application 10/646,008

Response dated: December 8, 2005

In Reply to Office Action dated: November 8, 2005

6. (Previously Presented) The liquid crystal display device of claim 3, further comprising a plurality of flexible printed circuit films connected electrically and physically to the liquid crystal panel, wherein the drivers are mounted on the flexible printed circuit films.

7. (Previously Presented) The liquid crystal display device of claim 1, further comprising a second driving signal wire transmitting driving signals for the first or second display signal lines, wherein the second driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

8. (Previously Presented) The liquid crystal display device of claim 7, wherein a distance between the first driving signal wire and the first display signal wire is smaller than a distance between the second driving signal wire and the first display signal wire.

9. (Previously Presented) The liquid crystal display device of claim 7, further comprising a plurality of second connecting lines disposed between the second driving signal wire and at least another part of the first display signal wire, and connected to at least one of the second driving signal wire and the another part of the first display signal wire.

10. (Previously Presented) The liquid crystal display device of claim 9, wherein the first and second connecting lines are alternately disposed.

11. (Previously Presented) The liquid crystal display device of claim 1, wherein one end of the connecting line is connected to the first display signal wire, and another end thereof is connected to the first driving signal wire.

12. (Previously Presented) The liquid crystal display device of claim 11, wherein the first connecting line comprises two sections that are electrically separated each other, and the two sections are respectively connected to the first display signal wire and the first driving signal wire.

Application 10/646,008

Response dated: December 8, 2005

In Reply to Office Action dated: November 8, 2005

13. (Previously Presented) The liquid crystal display device of claim 1, wherein the first connecting line is electrically connected to the first display signal wire and the first driving signal wire.

14. (Previously Presented) The liquid crystal display device of claim 12, further comprising a shorting bar connected to the first driving signal wire.

15. (Previously Presented) The liquid crystal display device of claim 1, wherein the first driving signal wire further comprises a plurality of second pads connected thereto at its intermediate portion.

16. (Withdrawn) The liquid crystal display device of claim 1, wherein:
the first driving signal wire is formed as a same layer with the second display signal wire;
the first connecting line comprises a connecting member that is formed as a same layer with the pixel electrodes; and
the connecting member is connected to the first driving signal wire.

17. (Withdrawn) The liquid crystal display device of claim 1, wherein the first driving signal wire is formed as a same layer with the first display signal wire, and at least part of the first connecting lines are formed as a same layer with the display signal wire.

18. (Previously Presented) The liquid crystal display device of claim 1, wherein the first driving signal wire extends to an edge of the panel.

19. (Previously Presented) The liquid crystal display device of claim 1, wherein the first display signal wire transmits gate signals for turning on and off the switching elements, and the second display signal wire transmits data signals for the pixel electrodes applied through the switching elements.

Application 10/646,008

Response dated: December 8, 2005

In Reply to Office Action dated: November 8, 2005

20. (Previously Presented) The liquid crystal display device of claim 19, wherein the first driving signal wire transmits a gate-off voltage or a ground voltage.

21. (Previously Presented) The liquid crystal display device of claim 2, wherein the first display signal wire transmits data signals for the pixel electrodes, and the second display signal wire controls turning on and off of the switching elements such that the transmission of the data signals to the pixel electrodes is controlled.

22. (Previously Presented) The liquid crystal display device of claim 21, wherein the first driving signal wire transmits gray voltages, a clock signal, or a driving voltage to the drivers.

23. (Withdrawn) A test method of a liquid crystal display device, the liquid crystal display device comprising a first display signal wire having a plurality of a first display signal lines, a second signal wire having a plurality of a second display signal lines that cross the first display signal lines, a plurality of switching elements each of which is connected to both of one of the first display signal lines, pixel electrodes connected to the switching elements, and a driving signal wire including first and second pads respectively connected to the first signal wire at a near end thereof and at an intermediate portion thereof, the test method comprising:

driving the pixel electrodes through the switching elements by applying a first test signal to the first pad and a second test signal to the second pad; and

cutting the connection between the driving signal wire and the first display signal wire.

24. (Withdrawn) A manufacturing method of a liquid crystal display device comprising: manufacturing a liquid crystal display panel including the liquid crystal display device comprising a first display signal wire having a plurality of a first display signal lines, a second signal wire having a plurality of a second display signal lines that cross the first display signal lines, a plurality of switching elements each of which is connected to both of one of the first display signal lines, pixel electrodes connected to the switching elements, a driving signal wire that is separated from the first and second display signal wires and includes first and second pads respectively connected to the first signal wire at a near end thereof and at an intermediate portion

Application 10/646,008

Response dated: December 8, 2005

In Reply to Office Action dated: November 8, 2005

thereof, and a plurality of connecting lines connected to the first display signal wire and the driving signal wire;

driving the pixel electrodes through the switching elements by applying a first test signal to the first pad and a second test signal to the second pad; and

cutting the connecting lines.

25. (Withdrawn) The manufacturing method of claim 24, further comprising:

forming a shorting bar connected to the first driving signal wire; and

eliminating the shorting bar after manufacturing the liquid crystal display panel.